



1765

PTO/SB/21 (01-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

(Also, copies of cited references)

Total Number of Pages in This Submission

6

Application Number

10/065,551

Filing Date

10/29/2002

First Named Inventor

Roman Chistyakov

Art Unit

1765

Examiner Name

Nguyen

Attorney Docket Number

ZON-004

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JUL 10 2003  
PTO

### ENCLOSURES (Check all that apply)

☐

Fee Transmittal Form

☐

Fee Attached

☐

Amendment/Reply

☐

After Final

☐

Affidavits/declaration(s)

☐

Extension of Time Request

☐

Express Abandonment Request

☒

Information Disclosure Statement

☐

Certified Copy of Priority Document(s)

☐

Response to Missing Parts/  
Incomplete Application

☐

Response to Missing Parts  
under 37 CFR 1.52 or 1.53

☐

Drawing(s)

☐

Licensing-related Papers

☐

Petition

☐

Petition to Convert to a

☐

Provisional Application

☐

Power of Attorney, Revocation

☐

Change of Correspondence Address

☐

Terminal Disclaimer

☐

Request for Refund

☐

CD, Number of CD(s) \_\_\_\_\_

Remarks

☐

After Allowance Communication  
to Group

☐

Appeal Communication to Board  
of Appeals and Interferences

☐

Appeal Communication to Group  
(Appeal Notice, Brief, Reply Brief)

☐

Proprietary Information

☐

Status Letter

☒

Other Enclosure(s) (please  
Identify below):

PTO Form 1449 (3 pgs.); References B1-B2 and C1-C12;

and Return Receipt Postcard.

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm  
or  
Individual

Kurt Rauschenbach

Signature

*Kurt Rauschenbach*

Date

July 2, 2003

### CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: July 2, 2003

Typed or printed

Kurt Rauschenbach

Signature

*Kurt Rauschenbach*

Date

July 2, 2003

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, Washington, DC 20231.**

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PATENT  
Attorney Docket No. ZON-004

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANT(S): Roman Chistyakov  
SERIAL NO.: 10/065,551 GROUP NO.: 1765  
FILING DATE: October 29, 2002 EXAMINER: Duy Vu Nguyen  
TITLE: HIGH POWER PULSED MAGNETICALLY ENHANCED PLASMA  
PROCESSING

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. BOX 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. §1.97, Applicants hereby make of record the references listed on the accompanying Form PTO-1449 for consideration by the Examiner in connection with the examination of the above-identified patent application. Copies of the references are enclosed.

**REMARKS**

In accordance with the provisions of 37 C.F.R. §1.97, this statement is being filed (CHECK ONE):

- ☒ (1) within three (3) months of the **Filing Date** or before the mailing date of the **First Office Action** on the merits; or
- ☐ (2) after the period defined in (1) but before the mailing date of a **Final Rejection** or **Notice of Allowance**, and
- ☐ the requisite Statement is below, **OR**
- ☐ the requisite fee under Rule 1.17(p), namely **\$180.00**, is included herein, or
- ☐ (3) after the mailing date of a **Final Rejection** or **Notice of Allowance** but before the payment of the **Issue Fee**, **AND**
- ☐ Applicant hereby Petitions the Commissioner to accept and consider the attached Information Disclosure Statement, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite petition fee due under Rule 1.17(i)(I), namely **\$130.00** is included herein.

It is respectfully requested that each of the references shown on the attached Form PTO-1449 be made of record in this application.

### STATEMENT

As required under §1.97(e), Applicants, through the undersigned, hereby state either that [check the appropriate space]:

- ☐ 1. [E]ach item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application **not more than** three months prior to the filing date of the Information Disclosure Statement; or
- ☐ 2. [N]o item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any** individual designated in §1.56(c) **more than** three months prior to the filing of the Information Disclosure Statement.

### FEE AUTHORIZATION

Should any fee associated with the submission of this paper not be attached hereto as a check, the Commissioner is authorized to charge the missing fee to our Deposit Account, No. 501211. Any overpayments should be credited to said Deposit Account.

Respectfully submitted,



Kurt Rauschenbach  
Atty/Agent for Applicant(s)  
Rauschenbach Patent Law Group, LLC  
Post Office Box 387  
Bedford, MA 01730

Date: July 2, 2003  
Reg. No. 40,137

Tel. No.: (781) 271-1503  
Fax No.: (781) 271-1527



PTO/SB/08B (10-01)

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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Application Number</b>	10/065,551
		<b>Filing Date</b>	10/29/2002
		<b>First Named Inventor</b>	Chistyakov
		<b>Group Art Unit</b>	1765
		<b>Examiner Name</b>	Nguyen
		<b>Attorney Docket Number</b>	ZON-004
Sheet	3	of	3

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
	C9	MOZGRIN, ET AL., High-Current Low-Pressure Quasi -Stationary Discharge In A Magnetic Field: Experimental Research, Plasma Physics Reports, 1995, Pgs. 400-409, Vol. 21, No. 5, Mozgrin, Feitsov, Khodachenko.
	C10	ROSSNAGEL, ET AL., Induced Drift Currents In Circular Planar Magnetrons, J. Vac. Sci. Technol. A., January/February 1987, Pgs. 88-91, Vol. 5, No. 1, American Vacuum Society.
	C11	SHERIDAN, ET AL., Electron Velocity Distribution Functions In A Sputtering Magnetron Discharge For The EXB Direction, J. Vac. Sci. Technol. A., July/August 1998, Pgs. 2173-2176, Vol. 16, No. 4, American Vacuum Society.
	C12	STEINBRUCHEL, A Simple Formula For Low-Energy Sputtering Yields, Applied Physics A., 1985, Pgs. 37-42, Vol. 36, Springer-Verlag.

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08B (10-01)  
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		<b>First Named Inventor</b>	Chistyakov
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		<b>Examiner Name</b>	Nguyen
		<b>Attorney Docket Number</b>	ZON-004
<b>Sheet</b>	2	<b>of</b>	3

<b>OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS</b>			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	BOOTH, ET AL., The Transition From Symmetric To Asymmetric Discharges In Pulsed 13.56 MHz Capacity Coupled Plasmas, J. Appl. Phys., July 15, 1997, Pgs. 552-560, Vol. 82 (2), American Institute of Physics.	
	C2	BUNSHAH, ET AL., Deposition Technologies For Films And Coatings, Materials Science Series, Pgs. 176-183, Noyes Publications, Park Ridge, New Jersey.	
	C3	DAUGHERTY, ET AL., Attachment-Dominated Electron-Beam-Ionized Discharges, Applied Science Letters, May 15, 1976, Vol. 28, No. 10, American Institute of Physics.	
	C4	GOTO, ET AL., Dual Excitation Reactive Ion Etcher for Low Energy Plasma Processing, J. Vac. Sci. Technol. A, Sept./Oct. 1992, Pgs. 3048-3054, Vol.10, No. 5, American Vacuum Society.	
	C5	KOUZNETSOV, ET AL., A Novel Pulsed Magnetron Sputter Technique Utilizing Very High Target Power Densities, Surface & Coatings Technology, Pgs. 290-293, Elsevier Sciences S.A.	
	C6	LINDQUIST, ET AL., High Selectivity Plasma Etching Of Silicon Dioxide With A Dual Frequency 27/2 MHz Capacitive RF Discharge.	
	C7	MACAK, Reactive Sputter Deposition Process of Al <sub>2</sub> O <sub>3</sub> and Characterization Of A Novel High Plasma Density Pulsed Magnetron Discharge, Linkoping Studies In Science And Technology, 1999, Pgs. 1-2, Sweden.	
	C8	MACAK, ET AL., Ionized Sputter Deposition Using An Extremely High Plasma Density Pulsed Magnetron Discharge, J. Vac. Sci. Technol. A, July/August 2000, Pgs. 1533-37, Vol. 18, No. 4, American Vacuum Society	

<b>Examiner Signature</b>		<b>Date Considered</b>	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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PTO/SB/08A (10-01)

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Substitution for form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
Application Number				10/065,551	
Filing Date				10/29/2002	
First Named Inventor				Chistyakov	
Art Unit				1765	
Examiner Name				Nguyen	
Attorney Docket Number				ZON-004	
Sheet	1	of	3		

[illegible]

FOREIGN PATENT DOCUMENTS						
Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup>	-Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)			
	BI	WO	98/40532	09/17/1998	Chemfilt R. & D. ...	
	B2	WO	01/98553 AI	12/27/2001	Chemfilt R. & D. AB	

Examiner Signature		Date Considered	
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1 Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

English language translation is attached.

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